REMARKS / ARGUMENTS

Information Disclosure Statements

In the Office Action mailed January 29, 2004, the Examiner stated that information referred to in IDS statements filed on 8/10/01, 2/27/02, 7/9/02, 2/20/03, and 3/12/03 had not been considered in the Office Action because a legible copy of each patent had not been submitted. Copies of the required patents are being sent under separate cover together with a Supplemental IDS, with the exception of cryptography and non-patent documents cited in the earlier filed IDS's for non-elected species. Cryptography and non-patent concepts are not mentioned in new claims 213-275 and applicant submitted copies of the cryptography and non-patent documents in parent application 09/853,487 pursuant to Rule 98.

Claim Rejections - 35 USC § 103

In the Office Action mailed January 29, 2004, the Examiner rejected claims 158-212 under 35 USC § 103(a) as being unpatentable over Miyamoto et al (6,139,433) in view of Himoto et al (6,478,679). The Examiner stated:
"Miyamoto teaches a video gaming system that comprises a first game system that executes a first game program, the video gaming system carrying out the steps of generating first picture data in the game system that simulates a first 3-dimensional (3-D) game world in which a first player-controlled animated character is viewed from a first variable 3-D viewpoint and camera angle for display on a first display device; changing the 3-D viewpoint and camera angle to a third viewpoint and camera angle; and generation of third picture data representing an object viewed in a second 3-D game world from a third viewpoint. Miyamoto is silent regarding the

features of a separately housed portable game system having a discrete display device and a second processor and transmitting game data from the first game system to the second portable game system."

The Examiner further stated: "In an analogous gaming system, Himoto teaches these features (abstract; Fig. 10; Fig. 11; Fig. 12; Fig. 15). It would have been obvious to a person of ordinary skill in the art at the time of the invention to include these features as taught by Himoto in Miyamoto...".

The embodiment of applicant's invention that is defined by claim 213 is a method for use in data-linked game systems in which a portable game system generates data representing animated characters (such as people) that have plural body parts (arms, legs, fingers, etc) in simulated 3-D game worlds generated from many different variable 3-D points of view and angles for display on the portable game system when linked to a separately housed video game console system that also generates plural-body-part characters (such as people) in the same or different 3-D game worlds from many different variable 3-D points of view and angles. Players can also control movement of characters in all three dimensions in both the console and portable systems for display on two display devices (such as a TV screen and LCD screen).

The terms "three-dimensional" (3-D) and "camera" are used in the same metaphorical sense used in the Miyamoto patent 6,139,433 cited by the Examiner, and refer to three dimensions of a simulated game world and objects therein and points of view from which data representing shapes and textures of virtual objects are generated.

The expression "portable game system" is a term of art for a handheld, battery powered, game system that contains a display device, typically an LCD screen.

As suggested by the Examiner, Miyamoto '433 discloses the 3-D viewpoint and camera angle features defined by element (a) in applicant's claim 213. And Himoto '679 discloses the LCD, second processor, and data link features defined by the preamble and element (b) in applicant's claim 213. However, combining the game systems of Himoto '679 and Miyamoto '433, would not result in game system elements (c), (d), and/or (e) in applicant's claim 213.

In Himoto '679, the abstract: Fig. 10; Fig. 11; Fig. 12; Fig. 15; and other Himoto '679 disclosure do not remotely suggest that a "player-controlled animated character having plural body parts which are generated from a second variable 3-dimensional point of view and camera angle for display on said discrete display device" in a portable game system as required in applicant's claim 213 (c), or "changing in said portable game system said second point of view and camera angle to a third variable 3-dimensional point of view and camera angle" as required in applicant's claim 213 (d), or "generating third picture data in said second processor in said portable game system that represents an object generated in said second 3-dimensional game world from said third point of view and camera angle for display on said discrete display device" as required in applicant's claim 213 (e).

None of the expressions "camera angle" or "viewpoint" or "point of view" or "POV" appear in the Himoto patent. The word "camera" is mentioned only in the sense of

"small-sized camera 292 can take pictures". "Angle" is mentioned only with regard to mechanical components such as "swing angle of the operation lever".

Moreover, there is no suggestion in Himoto '679 that portable game system 10 may generate 3-D game worlds or that portable system 10 may generate a game world from variable 3-D points of view and/or angles for display on the LCD. The words "dimension", "dimensional", "three", "3D", or "3-D" do not appear in Himoto.

Himoto Fig. 12 shows data being transferred between portable game system 10 and video game apparatus 60 indirectly through controller 70 as suggested in Fig. 11. Figures 15 - 18 show data being transferred between portable game system 10 and video game system 60, but there is no suggestion in the drawings that the character displayed on LCD [14] in portable system 10 may be generated from variable 3-D points of view and/or variable angles as required by elements (c), (d), and (e) in applicant's claim 213.

Himoto Fig. 3 is a block diagram of portable system 10 which contains CPU 30. System 10 is recognizable in Fig. 11 as the Sega Visual Memory Unit (VMU) which contains an 8-bit CPU and an LCD screen of 48 dots by 32 dots which would be insufficient to generate and display 3-D player characters from variable 3-D points of view and angles as required by applicant's claim 213. Moreover, the scrolling graphics illustrated in Himoto Figures 17 and 18 on LCD [14] clearly imply that CPU 30 in portable game system 10 is a low-speed processor that generates 2-D side-scrolling picture data and would not be capable of generating picture data from 3-D points of view or 3-D angles with sufficient speed and resolution for handheld 3-D games.

Linking Himoto's video game system 60 to portable system 10, as illustrated in Figures 10, 16, 17, 18, and 28, would not overcome the speed problem, because portable system 10 is disconnected from video system 60 for independent operation during game play as described in column 14, lines 58-65 with reference to Fig. 18 and which is also clearly illustrated in Figures 10, 16, 17, 18, and 28.

Himoto does not show, describe, or remotely suggest playing a linked system game with 3-D player characters generated from variable points of view on both LCD screen 14 and TV screen 80. A character is shown in Fig. 18 on the LCD screen of portable game system 10, but this character is not being controlled while the two systems are linked together. The link in Figures 10, 16, 17, 18, and 28 is used only for downloading a mini-game, not for playing a linked game. If it were obvious to have both game systems generating a 3-D character or characters from variable points of view and displaying them on both screens while the two systems were linked, at least one example would have been shown or suggested in Himoto, but was not.

Even if, for the sake of argument, Himoto's portable game system 10, displaying 2-D side-scrolling games, were linked to the 3-D system disclosed in Miyamoto '433, this linked system would not produce LCD displays of 3-D player characters in 3-D game worlds generated from variable 3-D points of view and variable 3-D angles on the linked LCD portable game system as required by applicant's claim 213. Elements (c), (d), and (e) in applicant's claim 213 all require 3-D processing in a linked portable game system which is not shown, described, or remotely suggested in either Miyamoto '433 or Himoto '679.

There is no suggestion in Himoto that a graphics coprocessor be included in portable game system 10 or that processor 30 would have sufficient speed for generating 3-D game worlds and 3-D player characters from variable 3-D points of view and 3-D angles. Moreover, there is no suggestion in Miyamoto '433 that 3-D video game console system 52, and CPU processor 100 and coprocessor 200 therein, would be practical for a handheld battery-powered portable game system.

For these reasons it would not have been obvious for a person of ordinary skill in the art at the time of the invention to construct the system defined by applicant's claim 213 from the teachings of Himoto '679 and Miyamoto '433.

Another Miyamoto patent (6,132,315) discloses a linked system which comprises a video game system 20 (analogous to video game console 52 in Miyamoto '433) that can generate 3-D characters from variable angles for display on TV 40 as described in column 17 first paragraph of Miyamoto '315. This game console 52 is linked to portable game system 10 (such as a Game Boy mentioned in column 7, line 7).

Figures 20, 21, 22, and 24 in Miyamoto '315 show 3-D characters, but these are for display on CRT 40 (TV). Display of player characters on LCD 17 is briefly mentioned in column 9 lines 58-67 and column 10 lines 1-4, but this is without benefit of data transmitted from game console 20 through a data link. When such a link is described in column 11 lines 29-62, there is no mention of LCD 17. If display of 3-D characters on LCD 17 in a linked system were obvious to Miyamoto and co-inventors, why did they not provide even one example in the drawings? This would be a strange omission if it were obvious to generate 3-D characters from

variable points of view and angles for display on both TV 40 and portable LCD 17 in accordance with game data transmitted from game console 20 to portable system 10 through a data transmission link.

But even if, for the sake of argument, 3-D characters generated by console system 20 for TV display could also be generated in portable system 10 for LCD display, the requirement in applicant's claim 213 (c) that the portable LCD display a character having plural body parts is neither shown nor remotely suggested in Miyamoto '315. According to Miyamoto '315 from column 9 line 59 to column 10 line 4, a player may manipulate controller 14 to control "a player character (character making motions in response to player's operation)" for display of the player character on LCD 17. However, there is no suggestion in Miyamoto '315 that portable game system 10 should generate a 3-D player character with plural body parts.

Figures 20, 21 and 22 in Miyamoto '315 clearly show a monster character with plural body parts on a display screen, but which display screen is used is not indicated in the figures. Fig. 20 is discussed at column 16 lines 57-67 in connection with step S39 in the Fig. 11 flowchart. Fig. 21 is discussed at column 17 lines 1-27 in connection with step S42 in the Fig. 12 flowchart. And Fig. 22 is discussed at column 17 lines 28-34 in connection with step S48 in the Fig. 12 flowchart. Within the discussion in columns 16 through 17 of process steps in Figures 11 and 12, there are references to "analog joystick" and "second-machine 20" (the video game console apparatus), but there are no references to "first-machine" (the portable game machine 10), CPU 11, or LCD 17 in columns 16-17. Hence, the monster characters in Figures 20, 21, and 22 appear only on the TV screen (CRT 40)

generated by video game apparatus 20, and not on LCD 17. There is no drawing of LCD 17 displaying a character in Miyamoto '315.

In the entire Detailed Description (columns 6-20) there are only two references to LCD 17 (at column 7 line 40 and column 10 line 4). Miyamoto '315 does not suggest, in either of these paragraphs, that portable game system 10 should generate a player character with plural body parts for display on LCD 17.

In Miyamoto '315, at column 7 lines 31-32, processor 11 in portable game machine 10 is described as: "for example, an 8-bit CPU" and at column 7 lines 15-16: "the first-machine 10 may employ, for example, an 8- or 16- bit video game machine." The kind of images generated in portable game machine 10 are described at column 9 lines 28-30: "For example, if the first-machine [portable 10] game program is to display second-dimension images, the second-machine [20] program may be to represent three-dimension images..." Such suggested use of 8-bit or 16-bit processors and display of 2-dimensional images described in Miyamoto '315 clearly indicates that 3-D game worlds were not contemplated for display on portable LCD screen 17. In contrast, applicant's claim 213 is limited to 3-D game worlds and 3-D characters with plural body parts in both of the linked systems.

If it were obvious to display characters with plural body parts on LCD 17 in portable game system 10, why did Miyamoto neglect to mention it? Because it was not obvious that animated full-bodied 3-D characters such as people in 3-D game worlds should be generated in a portable game system that was designed for 2-D

side scrolling games, especially when the video game console system 20 already provided 3-D game worlds and full-bodied 3-D characters.

For these reasons it would not have been obvious for a person of ordinary skill in the art at the time of the invention to practice the method defined by applicant's claim 213 from the teachings of Miyamoto '433 and Miyamoto '315.

In a later patent application of Miyamoto (US 2002/0165028), which is not prior art, Figures 4, 5, and 9(c) show 3-D "characters" in a 3-D world generated from variable points of view and displayed on LCD screen 20 in a linked, multi-system game. But these "characters" are cubes, pyramids, cones, and other geometric objects that do not have plural body parts as required by applicant's claim 213. Even as recently as May 2, 2001, the priority date for the Miyamoto '028 application and the same month and year as applicant's priority date, it was still not obvious to Miyamoto and co-inventors that displaying 3-D animated characters (such as people) with plural body parts on portable LCD screens linked to a video game console system would be a significant improvement or appropriate for linked portable game systems.

In the Miyamoto '028 application, portable game system 100 (Fig. 6) generates an image of a simulated 3-D space (Fig. 5) from a variable point of view as described in paragraph [0080], but does not generate player characters with plural body parts that are generated from variable camera angles. In Figures 4 and 5, player character Ch 1 has only one body part and is being viewed from only one angle "viewed from a rear oblique upper position of one's character" on LCD 20.

There is no suggestion in Miyamoto '028 of generating 3-D characters with plural body parts from variable points of view and angles for display on an LCD screen in a portable game system, because generating of 3-D characters typically involves generating textured polygons which change shape as the point of view or camera angle changes. In stark contrast, applicant clearly specified in his application on page 19, lines 29-32: "The polygons which form the image of hand 37 on LCD 22 are then modified by microprocessor 50 (Fig. 4) to show hand 37 grasping pipe 35 on LCD 22."

If it were obvious to Miyamoto and co-inventors that displaying 3-D animated characters with plural body parts should be generated in portable game system 100 for display on LCD 20, why are no examples of such characters shown in the drawings or suggested in the specification? Because it was not obvious to use a portable game system (designed for 2-D sprites and scrolling) for display of characters with plural body parts generated from variable points of view and camera angles, when linked to video game system 200 that does provide such 3-D graphics processing for display on a TV screen.

In a still later US patent application of Aonuma et al (2003/0216177), which is not prior art, Aonuma '177 exemplifies the bias that people with skill in the electronic game art had against 3-D characters with plural body parts on a 2-D portable game system LCD when linked to a console system.

Aonuma's abstract distinguishes "a game system that displays a 3-D game screen and a 2-D map screen for representing a 3-D space." In Aonuma's Fig. 1, handheld game machine 4 "is used mainly as a controller for the video game machine 3"

according to paragraph [0065] and contains LCD 41 that is a "2-D map screen" in paragraph [0012]. In Fig. 4, Aonuma provides a block diagram of portable game system 4 which has one CPU 401 but no graphics coprocessor. In Fig. 5 Aonuma illustrates a 3-D player object viewed from a variable viewpoint VP, for display on a "3-D game screen" in television 2 as disclosed in paragraph [0081]. But there are no drawings in Aonuma that suggest a 3-D character on LCD 41.

Even as recently as May 17, 2002, Aonuma's priority date, portable game machine 4, when linked to a video game console 3, was stereotyped as a controller that displays 2-D maps and controls a video game console system. Video game console machine 3 does generate 3-D images of characters with plural body parts for display on a TV screen as illustrated in Fig. 6 in Aonuma. If it were obvious to display full-bodied 3-D player characters such as people on both the TV screen and the LCD screen, why does Aonuma show such a character only on a TV screen in Figures 5 and 6, but does not show or suggest even one such 3-D character on an LCD screen?

Portable game machine 4, which is recognizable as a Game Boy Advance,™ was designed for 2-D sprites, tiles, and scrolling with scaling and rotation, and was not designed for 3-D graphics with continually changing points of view and characters that are moving past fixed points of view and would therefore be generated from continually changing angles. The 2-D hardware design resulted in bias against 3-D graphics in the Game Boy Advanced and other portable game systems connected by a data links to a video game console system.

Using a cursor to point to a 3-D character on an LCD screen, as illustrated in applicant's Fig. 2, would have solved the problem described by Aonuma in his paragraph [0007] which reads as follows:

[0007] "... the zoomed-out map screen [LCD] is a screen for indicating the location of the player object and the like to make the player roughly understand where he or she is. Therefore, to operate the player object, the player still has to view the 3-D game screen [TV], making it difficult to grasp the sense of depth. Similarly, for setting a mark in the 3-D game space while viewing the 3-D [TV] game screen, it is extremely difficult to accurately move the mark to a desired location in the 3-D game space. How to set a mark in a 3-D game space is not particularly disclosed in the background art."

Applicant's solution (page 19 lines 29-32 and Figures 2 and 11) of touching an image of a 3-D character's body part or displaying a cursor on a 3-D character's body part generated from textured polygons displayed on the portable LCD, was not obvious to Aonuma who taught away from the invention by displaying a cursor on a 2-D *map* on the LCD screen in Aonuma's Figures 7-9. Aonuma did not describe, suggest, or illustrate a 3-D player character with plural body parts on an LCD screen. This is typical of the continual bias against such 3-D characters generated from variable points of view on an LCD linked to a video game console system.

In patent '433 (Figures 1, 25, 27E-27J), Miyamoto showed the Nintendo character Mario in the drawings as an example of a 3-D player character generated by the video game system for display on a TV screen. But in patent application '028 when Miyamoto, the game expert who invented Mario, chose examples of

characters to illustrate LCD displays in the linked multi-system game apparatus disclosed in Miyamoto '028, he chose geometric objects as illustrative characters. If it were obvious to generate 3-D player characters with plural body parts from variable viewpoints for LCD display in linked game systems, why did Miyamoto choose geometric objects instead of his full-bodied Mario? Clearly, it was not obvious to Miyamoto or his co-inventors to generate variable 3-D views of humanlike 3-D characters for display on a 2-D portable game system LCD screen when such variable 3-D views of 3-D full-bodied characters were already being generated by a linked video game console for display on a TV screen.

For these reasons, it would not have been obvious for a person of ordinary skill in the art at the time of the invention to construct the system defined by applicant's claim 213 from the teachings of Miyamoto '433, Miyamoto '315, and Miyamoto '028.

Tomizawa (GB 2,353,928) shows in Fig. 12 an example of two "player objects" displayed on an LCD in a portable game machine in a linked multi-system game. But the "player objects" displayed on LCD 17 are geometric symbols, not characters with plural body parts as required by applicant's claim 213. In Fig. 11 Tomizawa shows a 3-dimensional world, but again each "player object" consists of only one body part, i.e. a geometric symbol. If it were obvious to generate images of people and other characters with plural body parts in a 3-D world on LCD 17 in portable game machine 10 linked to video game system 20 so that a 3-D, dual-system, dual-display game could be played, why is no example of such a game shown, described, or suggested in Tomizawa? Because it was not obvious to Tomizawa, a person skilled in the art.

The cited references illustrate how game experts overlooked applicant's invention because they regarded the linked portable game system as a 2-D LCD-equipped controller. Miyamoto '315 column 11, line 60-62 said: "the game play... may be implemented by using the first-machine" [GameBoy] "in place of the controller". Himoto '679 regarded portable game system 10 as a removable part of a controller as illustrated in Fig. 15. Likewise, Aonuma said the hand-held game machine was "used mainly as a controller" more than one year after applicant's priority date. Tomizawa regarded the portable machine as a 2-D display device.

Because portable game systems were designed for 2-D sprites, tiles, and scrolling and stereotyped as LCD-equipped 2-D controllers in linked systems, the possibility of portable game systems providing supplementary displays of full-bodied characters in 3-D worlds from variable points of view in linked systems was overlooked. The long-standing assumption that portable game systems would not provide 3-D and multi-part characters when linked to a video game system that does provide 3-D and multi-part characters, indicates that applicant's invention was not obvious.

Applicant conceived that video games played on a portable game system linked to a video game console system would be greatly improved if the portable game system generated 3-D full-bodied characters from many different points of view and angles on the portable LCD screen so that players could display and move characters in all three dimensions using both the console and portable systems and their respective display devices. This enhancement to linked game systems was not suggested in the cited references, because applicant's invention was not obvious to video game experts at the time of applicant's invention.

None of the cited references show, describe, or suggest that an LCD in a portable game system should display 3-D player characters with plural body parts from 3-D points of view and camera angles in 3-D game worlds in accordance with data transmitted from a video game console system to the portable game system as required by applicant's claim 213.

Clearly, applicant's claim 213 defines an invention that is novel, non-obvious, and a significant advance over the prior art.

Arguments directed above to claim 213 may also be directed to independent claims 250, 258, 265, and 272 and claims dependent thereon.

Applicant submits that the present pending claims are allowable and a favorable decision is respectfully requested.

Respectfully submitted,

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